

ART XII.—*On the occurrence of a Marsupium in an Echinoid belonging to the Genus Scutellina.*

By T. S. HALL, M.A.,

Melbourne University.

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On a visit to the mouth of the Glenelg River, in the west of Victoria, I collected about twenty-five specimens of *Scutellina*. They were found in the soft white polyzoal limestone which occupies such a large area of the south-east of South Australia and the south-western borderland of Victoria. The age of this formation is Barwonian, and may be Eocene.

On cleaning them with a dental engine a deep depression was displayed in some examples on the actinal surface, between the peristome and the anterior margin. The size and shape of the pit varies somewhat in different individuals. It is generally so deep that its upper surface is almost, if not quite, in contact with the abactinal surface of the test. The pit is very shallow near the peristome, but deepens as it runs forward. Its front and lateral walls are vertical. A rounded, but distinct median ridge slightly divides the pit into two halves.



Scutellina sp., actinal and abactinal views, profile, and section through marsupium and mouth $\times 1\frac{1}{2}$.

The only suggestion that I can make as to the function of the pit is that it is a marsupium for the protection of the young.

The only group of Echinoids in which a definite marsupium has been recorded, as far as I am aware, is that of the Spatangoids. In them those forms with sunken petals, such as *Hemiaster* and *Schizaster*, the pits in some cases, and perhaps in all, function as brood pouches. In *Hemiaster cavernosus*, the pits are present in the female, absent in the male, so that they furnish an external sexual character.

Eleven of my specimens have a marsupium, while the remainder are without it. Its presence, then, if we may argue on the analogy of *Hemiaster*, indicates the female.

In some of the Cidaroids a temporary protection is afforded to the young by the tent-like arrangement of the spines, but there is no pitting in the test, as in the case of Spatangoids, or as in the present specimens. It is consequently of interest to find the permanent marsupium present in a second order of Echinoids, the Clypeasteroidea.

The question as to the name of the species is not easy to settle. The amount of specific variation amongst echinoids is considerable, and there is a growing tendency to limit the number of specific forms. F. Jeffrey Bell is one of the most eminent of those who hold this view.¹

We have already two species of *Scutellina* described from our Australian older tertiary—namely, *S. patella*, Tate² and *S. morgani*, Cotteau.³ Although there are certain details of Cotteau's species that I cannot decipher in specimens from Mount Gambier, the locality of the type, yet I have no doubt that Tate's and Cotteau's species are identical. Tate in his description gives Mount Gambier as one of the localities from which his species was obtained. The species is widely spread, being found in almost all our tertiary limestones.

The question of priority is not easy to settle, for both papers are dated 1891. Professor Tate, many years ago, when acting as editor of the publications of the South Australian Society, told me that the publications for the year always appeared in that year, so that though his present paper was read only in October, it almost certainly appeared in 1891. Cotteau's paper

1 Marine Investigations in South Africa, vol. iii.

2 Trans. Roy. Soc. S. Australia, 1891, p. 279.

3 Mem. Soc. Zool. d^e France, pt. iv. (1891), pp. 629, 630, pl. 19, figs. 10-14.

appeared in part 4, the final part, of the volume for 1891. Both species are recorded on the same page of the Zoological Record. The fact that *S. patella* has been familiar to Australian geologists as a manuscript name of Tate's is no argument for its use, but till the question of priority is settled I shall use Tate's name.

The present specimens, with the marsupium, are not, I think, separable, though in most of them the pentagonal outline is decided, and I think they may be regarded as *S. patella*. I have found one or two specimens from Mount Gambier also showing the marsupium.
